



Perfluorocarbon-Loaded Lipid Nanocapsules to Assess the Dependence of U87-Human Glioblastoma Tumor pO₂ on In Vitro Expansion Conditions

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Résumé en anglais	Growing tumor cell lines, such as U87-MG glioma cells, under mild hypoxia (3% O ₂) leads to a ca. 40% reduction in growth rate once implanted in the brain of nude mice, as compared to normoxia (21% O ₂) grown cells, wherein the former over-express HIF-1 and VEGF-A. Despite developing differently, the tumors have similar: blood perfusion, oxygen consumption, and vascular surface area parameters, whereas the number of blood vessels is nearly doubled in the tumor arising from normoxia cultured cells. Interestingly, tumor oxygen tension, measured using 19F-oximetry, showed that the normoxia grown cells led to tumors characterized by mild hypoxic environment (approximately 4%) conditions, whilst the hypoxia grown cells led to tumors characterized by physioxenic environment (approximately 6%) conditions. This reversal in oxygen concentration may be responsible for the apparent paradoxical growth profiles.
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